

CLAIMS

1. An array for retrofitting to a vessel to reduce its radar signature, the array capable of being fastened to surfaces of the vessel structure and comprising a plurality of elements having reflective surfaces with substantially planar faces, wherein when the array is fastened to the vessel structure the faces are oriented so as to reflect an incident radar signal in a direction away from its direction of incidence for a given range of incident directions.
2. An array according to claim 1 wherein the orientation of the faces is such that the faces are arranged so as to be oblique to the direction of incident radar for a given range of incident directions.
3. An array according to either claim 1 or 2 wherein any edges defining the boundary of the reflective surfaces are oriented so as to be oblique to the direction of incident radar for a given range of incident directions.
4. An array according to any one of claims 1 to 3 wherein the reflective surfaces are oriented so as to reflect an incident radar signal by up to about 30 degrees.
5. An array according to any one of claims 1 to 3 wherein the reflective surfaces are oriented so as to reflect an incident radar signal by up to about 15 degrees.
6. An array according to any one of claims 1 to 5 wherein the reflective surfaces are oriented so as to reflect an incident radar signal by up to about 8 to 10 degrees.
7. An array according to any one of claims 1 to 6 wherein the element is triangular, polyhedral, pyramidal or prismatic in shape or in cross-section.
8. An array according to any one of claims 1 to 6 wherein the element is an elongated triangle, elongated polyhedron or elongated pyramid.
9. An array according to any one of claims 1 to 8 wherein the element defines an apex disposed in a region which is forward relative to the planar faces of the reflective surfaces and colinear with respect to the incident radar signal.
10. An array according to any one of claims 1 to 9 wherein the array comprises a plurality of uniform elements.
11. An array according to claim 10 comprising a grid of uniformly spaced elements having reflective surfaces with substantially planar faces.
12. An array according to any one of claims 1 to 11 formed from a lightweight material.
13. An array according to any one of claims 1 to 12 wherein the elements are perforated.
14. An array according to any one of claims 1 to 13, wherein the array is formed from a mesh material.

15. An array according to ~~any one of claims 1 to 14~~, wherein said array is in roll or sheet form.

16. An array according to claim 15 wherein said sheet includes stiffening means to enhance the rigidity or resilience of said sheet.

17. An array according to ~~any one of claims 1 to 15~~ wherein the elements have a thickness in the range of from about 0.25mm to 15mm.

18. An array of claim 17 wherein the element is of a thickness in the range of from about 1mm to 6mm.

19. A vessel having a structure to which is attached at least one array as claimed in any preceding claim.

20. A method for retrofitting an array to a vessel to reduce its radar signature, the array being as claimed in any one of claims 1 to 18, the method including the step of attaching to surfaces of the vessel structure the array wherein the arrangement when attached to surfaces of the vessel structure results in the faces being oriented so as to reflect an incident radar signal in a direction away from its direction of incidence for a given range of incident directions.

21. A method according to claim 20 wherein the array is fastened to the vessel structure by welding or by screw fastening the array to the structure.

22. A method according to claim 20 or 21, wherein the vessel structure comprises any surface on the structure capable of reflecting a radar signal.

23. A method according to any one of claims 20 to 22, wherein the arrangement of elements on the vessel structure is such that the facets of the elements reflect the incident radar signal away from a threat direction.

24. A method according to any one of claims 20 to 23, wherein the array comprises a plurality of sheets capable of being joined together.

25. A method for retrofitting an array to a vessel to reduce its radar signature, the array being as claimed in any one of claims 1 to 18, the method including the step of fastening to surfaces of the vessel structure in sheet form one or more arrays comprising a plurality of uniformly shaped elements being triangular, polyhedral, pyramidal or prismatic in shape and having reflective surfaces with substantially planar faces, wherein the orientation of the faces and edges defining the boundary of the reflective surfaces being such that the faces and the edges are oblique to the direction of incident radar for a given range of incident directions, the arrangement being such that when fastened to surfaces of the vessel structure the reflective

surfaces are oriented so as to reflect an incident radar signal by up to about 30 degrees away from its direction of incidence for a given range of incident directions.

26. A vessel retrofitted according to the method of any one of claims 20 to 25.